

WHAT IS CLAIMED IS:

1. A differential signal transmitting apparatus for transmitting data information provided from a signal
5 transmitting unit to a signal receiving unit, comprising:

transmission lines to transmit the data information provided from the signal transmitting unit,

wherein the data information is recognized in association with voltage levels at ends of the transmission lines located
10 in the signal receiving unit, and the number of the transmission lines is at least three.

2. The differential signal transmitting apparatus according to claim 1, further comprising:

15 first matching unit disposed between ends of first and second transmission lines located in the signal receiving unit;

second matching unit disposed between ends of the second and third transmission lines located in the signal receiving
20 unit; and

third matching unit disposed between the ends of the third and first transmission lines located in the signal receiving unit;

wherein each of the first to third matching units has an
25 impedance matching with an impedance of the first to third

transmission lines to prevent distortion of the data information.

3. The differential signal transmitting apparatus
5 according to claim 2, wherein the first to third matching units have a substantially same impedance.

4. The differential signal transmitting apparatus according to claim 3, wherein each of the first to third
10 matching units has the impedance about three times the impedance of each of the first to third transmission lines.

5. The differential signal transmitting apparatus according to claim 2, wherein the ends of the first to third
15 transmission lines have first to third voltage levels, respectively, which are different from each other, the date information being recognized based on a sequence of the first to third voltage levels.

20 6. A differential signal transmitting method of transmitting data information from a signal transmitting unit to a signal receiving unit, comprising:

transmitting the data information through at least three transmission lines disposed between the signal transmitting
25 unit and the signal receiving unit;

receiving the data information by the signal receiving unit; and

recognizing the received data information based on a sequence of voltage levels at ends of the first to third
5 transmission lines located in the signal receiving unit.

7. The differential signal transmitting method further comprising:

providing a first matching unit between the ends of the
10 first and second transmission lines located in the signal receiving unit;

providing a second matching unit between the ends of the second and third transmission lines located in the signal receiving unit; and

15 providing a third matching unit between the ends of the third and first transmission lines located in the signal receiving unit.

8. The differential signal transmitting method according
20 to claim 7, wherein the recognizing the received data information includes determining the sequence of the voltage levels at the ends of the first to third transmission lines based on the direction of the current.

25 9. The differential signal transmitting method according

to claim 7, wherein each of the first to third matching means has an impedance three times an impedance of each of the first to third transmission lines.

5 10. A differential signal transmitting method of transmitting data information from a signal transmitting unit to a signal receiving unit, comprising:

transmitting a first data group through first to third transmission lines formed between the signal transmitting unit
10 and the signal receiving unit ;

receiving the first data group by the signal receiving unit;

recognizing the first data group by the signal receiving unit;

15 transmitting a second data group through the first to third transmission lines by the signal transmitting unit;

receiving the second data group by the signal receiving unit;

20 recognizing the second data group by the signal receiving unit; and

recognizing the data information using a combination of the first and second data groups;

wherein the first and second data groups are recognized based on a sequence of voltage levels at ends of the first to
25 third transmission lines located in the signal receiving unit.